

REMARKS

Reconsideration of the Office Action is respectfully requested.

Accompanying this Amendment is a Supplemental Information Disclosure Statement with associated fee for a post first Office Action presentment. The Supplemental Information Disclosure Statement makes of record additional applications/patents that were previously or are currently copending.

Applicants would like to thank Examiner Nelson for taking into consideration the claim language of the preliminary amendment filed September 18, 2006 as to claims 7, 12-16, 20-22 and 24 in order to advance prosecution on the merits. The present claim amendments include a complete claim set with the non-entered, informally introduced claim revisions represented in proper format where still applicable. Withdrawal of the claim objections under 1.75(c) is respectfully requested.

Independent claims 1 and 2, as amended, have incorporated the features of the now canceled claims 3, 7 and 12.

Some of the dependent claims have been amended as seen by the accompanying claim set. No new matter is submitted to have been introduced with these claim amendments. Also, no claims have been added. Further, in addition to the cancellation of claims 3, 7 and 12 as described above, withdrawn claim 23 has been canceled.

Claim Rejections – 35 U.S.C. § 112, second paragraph

Claims 16-18 stand rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. Specifically, as to claim 16, the Office Action states that the phrase “into which a gas barrier film is inserted” is unclear as to what manner the gas barrier film interacts with the resin plate. The Office Action has suggested replacing the above-mentioned features based on “insertion” with features directed towards the gas barrier film being “in between” the transparent conductive layers and the substrate.

In response, Applicants respectfully traverse the rejection under 35 USC 112, second paragraph, as to claims 16-18. Applicants refer Examiner to para. 77 of the Publication

(US 2008/0038529) for an illustration of the use of the claim language with respect to an embodiment. In para 77 there is indicated that, "the gas barrier film is formed on one surface of the resin plate or resin film and another resin plate or film is laminated on the gas barrier film, thereby giving the structure that the gas barrier film is inserted therein". In the context of the present application (particularly in view of the above referenced description describing embodiment thereof), it is respectfully that one of ordinary skill in the art would find the language of a film being inserted into another structure definite and in compliance with 35 USC 112, second paragraph. Thus, Applicants respectfully request withdrawal and reconsideration of the rejection.

Claims 3, 9, 16 and 17 stand rejected as being vague and indefinite because of improper Markush group format. In the present Amendment claim 3 is no longer present and Applicants have amended claims 9, 16 and 17 into proper Markush group format. The scope of these claims is submitted not to have been altered in these Markush format revisions. Applicants earnestly solicit withdrawal and reconsideration of the 35 USC 112, second paragraph rejection relative to these claims as well.

Claim Rejections – 35 U.S.C. § 103(a)

Provided below is a summary table as to the prior art rejections presented in the Office Action.

IDENTIFICATION/ CLAIM NOS.		STATUTORY GROUND(S)	REFERENCE(S)
A	1-5, 7-15, 19-22 and 24	35 USC 103(a)	JP2000-106034 in view of JP 09-259640
B	6	35 USC 103(a)	A plus JP 09-291356
C	16-18	35 USC 103(a)	JP 2004-127719 (US 2006/0152136)

As described above, the present independent claims 1 and 2 have been amended to include the subject matter of former claims 3, 7 and 12. Thus, amended claims 1 and 2 now recite "wherein the metallic thin film is constructed with a single layer having at least one, as a main component, selected from the group consisting of silver, gold, platinum, palladium,

rhodium, iridium, ruthenium, osmium, nickel, copper, and aluminum, or the metallic thin film is constructed with a laminated layer of at least two kinds of the single-layer films having different compositions, wherein the metallic thin film ranges in thickness from 1 nm to 20 nm, and wherein the transmittance of light with a wavelength of 380 nm in the film itself is more than 80 %”.

As claims 1, 3, 7 and 12 were individually rejected based on rejection A above, a discussion follows with respect to that obviousness combination presented in A. For the reasons set out below the rejection of A is respectfully traversed as failing to present a prima facie case of obviousness relative to the current claims 1 and 2.

In recognition that the base reference failed to disclose or suggest the use of the claimed Ga content, in rejection A reliance is placed on JP ‘640. That is, in the Office Action it was asserted that it would have been obvious to modify the metal oxide film in the base reference to have the claimed features based on the disclosure in the JP ‘640 reference. This assertion of obviousness is respectfully traversed in that it is submitted that the disclosure JP’640 fails to remedy the lack of disclosure of any form of the relative levels of Ga in the context of the base reference.

As noted, the base reference of JP ‘034 in rejection A fails to mention any particulars regarding its Ga content in its brief side reference to that element in its paragraph 20. This is not surprising as a review of the translated disclosure (e.g., the disclosure in paragraph 23 of the computer generated translation) reveals the emphasis in the ‘034 reference is in producing a metal oxide film “as the mixed oxide which mixed cerium oxide at least to indium oxide” for the stated purposes of increased endurance via avoidance of silver grain migration. In other words, there is utilized the following as a preferred manufacturing technique (see par. 23 of the translation):

“That is, in Claim 3, it is considered as the manufacture method of the metal lamination film according to claim 1 or 2 characterized by using the quality of the material of a metal oxide thin film as the mixed oxide which mixed cerium oxide at least to indium oxide. [the amount of oxygen which should be included into introductory gas] if a metal oxide thin film is formed with the mixed oxide which mixed cerium oxide at least to indium oxide. It will end with about ½ quantity when forming a metal oxide thin film in

ITO, and it becomes possible to reduce formation of the damage produced on the silver system thin film surface. Moreover, if the quality of the material of a metal oxide thin film is used as the mixed oxide which mixed cerium oxide at least to indium oxide A metal oxide thin film serves as the shape (amorphous) of amorphous [without a crystal grain boundary], and since movement of the silver which is easy to cause the grain boundary diffusion which touches a metal oxide thin film in an interface is made to control, it can be said that it leads to the improvement in endurance of a metal lamination film.” (emphasis added)

As seen from the foregoing, there is an indication that the amorphous mixed oxide quality is deemed to provide beneficial results relative to the desirable avoidance of Ag migration and an increase in film endurance.

On the other hand, the JP ‘640 reference is directed at a pseudo-binary composition of Ga₂O₃-In₂O₃ having the “quality of a microcrystal” (see par. 7 of the JP ‘640 translation 1). This same JP ‘640 reference is described in the background portion of the present application. As stated therein [par 13 and 14 of present publication] –

“[JP ‘640] proposes a transparent conductive film in which, in a quasi-two-dimensional system indicated by Ga₂O₃-In₂O₃ as the transparent conductive film having a composition range considerably different from GaInO₃ which has been known in the past and possessing much higher conductivity than GaInO₃ and In₂O₃, namely lower resistivity and excellent optical properties, a Ga content indicated by Ga/(Ga+In) is 15-49 at. %. This thin film is a microcrystalline film including amorphism, GaInO₃, or a mixed phase of GaInO₃ and In₂O₃, or GaInO₃ and Ga₂O₃, and allows carrier production of a high level by the introduction of an intrinsic donor due to an intrinsic lattice defect of an oxygen hole or an interstitial atom or of an extrinsic donor in which a part of a group III element is displaced by a group IV element and a part of a group VI element is displaced by a group VII element. As a result, a low resistivity that is not obtained in GaInO₃ and In₂O₃ can be attained.

However, such a film is fundamentally a crystalline thin film and must be deposited at a high temperature in order to obtain sufficient properties. In this film, therefore, a common resin film formed of polyethylene terephthalate (PET) or polycarbonate (PC) cannot be used as the substrate and there is a problem that its application is limited. Furthermore, another problem arises that

other parts constituting the device are affected by heat in the fabrication process.”

Based on this and the above described emphasis for utilizing the noted amorphous mixture in the base reference for the purpose of avoidance of Ag migration and endurance increasing, it is respectfully submitted that the disclosure JP’640 fails to remedy the lack of disclosure of any form of relative levels of Ga in the context of the base reference. In other words, as the base reference describes advantages in the use of its ITO/CTO amorphous mix with Ga only briefly referenced in conjunction with a plurality of other elements, and the secondary reference is directed at a fundamentally crystalline film, it is respectfully submitted that one of ordinary skill in the art would not have been inclined to make the modification asserted in rejection A.

Furthermore, as described in par. 7 of the present application’s publication, while systems having good transmittance of light in the 400 -800 nm range of the visible range (or 400 -700 nm of the visible range as described in par 36 of the base reference) were known, there was not met in the prior art the strong need of achieving the claim 1 feature of providing a transmittance of light with a wavelength of 380 nm in a film itself of more than 80% transmittance (former claim 12 feature) in the context of claim 1. Nor does either of the references relied upon in rejection A disclose such a structural characteristic for their film. Reference is further made to the examples and comparative examples of the present application which further reveal the inventiveness of the current independent claims 1 and 2 relative to the state of the art.

Applicants further note that a review of the additional references relied upon in the prior art rejections summarized in the Table above, reveals that those references also fail to remedy the above noted deficiencies in rejection A.

CONCLUSION

All of the stated grounds of objections and rejections have been properly traversed, accommodated, or rendered moot. Therefore it is respectfully requested that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.


If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

If any fees are due in connection with the filing of this Response, please charge the fees to Deposit Account 02-4300; Order No. 034145R004.

Respectfully submitted,

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